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10/782,756

02/23/2004

Shinichi Yamada

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7655

7590

10/14/2005

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EXAMINER

NGUYEN, TRAN N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 10/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/782,756

Applicant(s)

YAMADA ET AL.

Examiner

Tran N. Nguyen

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1,4,7-9 and 29 is/are rejected.
- 7) ☐ Claim(s) 2,3,5,6,10-28 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Withdrawn Restriction Requirement***

The previous restriction is hereby withdrawn, after a careful consideration the Examiner found that the species are closely related and would not be a burden for the Examiner to includes all claims 1-30 in the prosecution of the application.

### ***Claim Rejections - 35 USC § 112***

**Claims 1-30** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Among claims 1-30, the terms, “which” “it” or “its” does not clearly reference for the intended referential, subject matter or established-antecedent-basis subject matter.

Among claims 3-30, there are some issues about antecedent basis. The applicant is requested to make sure that the antecedent basis of the claimed subject matters is clearly establish in the dependent claims.

Fore examples: claims 3 to 9, claim 1 does not recites the insulator with connecting means and the pair of left and right flanges; therefore, any subject matters of claims 3-9, which depend from claim 1, related to the insulator and its features lack antecedent basis.

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In claim 2, “insulator is provided with connecting means” should be changed to “insulator is provided with said connecting means” (i.e., the connecting means already recited in claim 1, this change would clearly establish the antecedent basis for the connecting means element).

**Suggestion:**

**Suggestions to amend Claim 2:** each of said pole members has a stator iron core, a bobbin-shaped insulator including a pair of integrally formed left and right flanges for winding a coil is ~~integrally formed at said~~ around said pole of stator iron core, and said insulator is provided with said connecting means for connecting each of said adjacent pole members.

**IMPORATANT NOTE:** the applicant is hereby strongly request to check and correct any antecedent basis issues of the dependent claims to avoid any 112, 2<sup>nd</sup> paragraph, of lacking antecedent basis in the claimed language.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 1. Claims 1, 4, 7, 8, 9 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liang et al (US 6373162) in view of Akita et al (US 6369687).**

**Liang** discloses an axial gap electronic motor (fig 1) including a stator (14, 16) and a rotor (18) each formed approximately in a disc shape and disposed opposing at a same rotary shaft with a predetermined gap.

**Liang**, however, does not disclose that the stator comprises a plurality of pole members annularly connected, and each of said pole members comprise connecting means for connecting adjacent pole members.

**Akita**, however, teaches that for the purpose of providing an improved iron core assembly are capable of inhibiting a possible increase in the magnetic resistance and a possible occurrence of an eddy current so as to obtain improved magnetic performance, thereby ensuring improved rigidity and increased mechanical precision for the iron core assembly, an iron core (fig 1) comprises a plurality of pole members (3) annularly connected, and each of said pole members comprises connecting means (3a-3b) for connecting adjacent pole members, wherein:

a rotatable first engaging member comprising a combination of a boss and a bearing recessed portion (3c-3d, 8a-8b, 17), which are provided at outer periphery sides, seen from a center of said stator, on opposing surfaces of the flanges of said adjacent pole members, is included as said connecting means;

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and the insulator comprises can be a single insulating material or at least two separate division parts, and each of said division parts is formed to sandwich said stator iron core with each other (fig 36).

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the stator of the motor by providing the stator with the stator core and insulator features, as taught by Akita. Doing so would improve the stator structure and magnetic characteristic for enhancing mechanical precision as well as magnetic performance of the motor.

**Regarding claim 29, Liang** discloses a rotor is sandwiched between two stators. However, those skilled in the art would understand that it would have been obvious to one having ordinary skill in the art at the time the invention was made to redesign the motor so that a stator is sandwiched between two rotors. This is obvious because a double axial-gap motor including a stator between two rotors, each formed in a disc shape and disposed opposing at a same rotary shaft is well known in the art. Such motor would delivery more output torque. Furthermore, it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. This rearranging part of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70) since one of ordinary skill in the art would have the necessary mechanical skill to make simple reversals of positions of mechanical parts without an express teaching in a reference (*In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969).

***Allowable Subject Matter***

**Claim 2 with above amending suggestions, and**

**claims 3, 5-6, 10-28 and 30** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran N. Nguyen whose telephone number is (571) 272-2030. The examiner can normally be reached on M-F 7:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tran N. Nguyen  
Primary Examiner  
Art Unit 2834

